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BEAUTIFYING THE HOME GROUNDS.

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U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
OFFICE OF THE CHIEF,
Washington, D. C., November 16, 1903.

SIR: I have the honor to transmit herewith a paper on Beautifying the Home Grounds, prepared by Prof. L. C. Corbett, Horticulturist of this Bureau, the same being a revision of a paper published in the Yearbook of the Department of Agriculture for 1902. As the ideas embodied should be of interest to farmers and suburban residents, I recommend that it be issued as a Farmers' Bulletin.

Respectfully,

B. T. GALLOWAY,
Chief of Bureau.

Hon. JAMES WILSON,
Secretary of Agriculture.

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BEAUTIFYING THE HOME GROUNDS.

INTRODUCTION.

The appropriate use of trees, shrubs, vines, and herbaceous plants in the adornment of city, village, suburban, or country home grounds gives a charm and beauty which are interesting and pleasing to the passer-by as well as to the occupant of the home. Plants are a means of expressing restfulness and beauty. Their gradually changing aspect with the succession of the seasons heightens their pleasing effect and relieves monotony. The changes which occur in the life of vegetation during the year have caused man to speak of the stages of human existence as the "spring," "summer," and "autumn" of life. The leaf, the branch, and the flower, as well as the general form of the plant, manifest a grace and beauty which art endeavors to copy. While art can not take the place of nature, it nevertheless plays an important part in teaching us to see and appreciate the beauties of nature. After the eye has been trained to see and the mind to interpret the beauties which the eye beholds, then association with nature produces its greatest effect.

In the artificial adornment of grounds by means of plants, Nature is our best instructor. From her we learn the uses of grass, flowers, vines, shrubs, and trees, and how to combine them to the best advantage. By growing together for ages, the various classes and species of plants have developed forms, habits, and requirements which enable them not only to live and thrive in harmony, but actually to assist one another.

Man should first provide for his necessities, then for comforts, and finally for pleasures. In a new country such as ours, the expenditure of time and means for the adornment of grounds has naturally received too little attention. The people have been necessarily concerned with acquiring lands and buildings. But a stage of development has now been reached when Americans should give more attention to the embellishment of their home grounds.

THE PLANTING PLAN.

The first essential in the adornment of a home area is the formation of a suitable plan. In making this plan the principal things to be considered are the size of the area, the amount which the owner feels able to expend for the purpose, the climatic conditions, the soil, the exposure, the peculiarities of the site, and the style of treatment, whether formal or natural.

Small places, consisting of an acre or less, situated among others of like dimensions, can only be appropriately improved in a formal style.

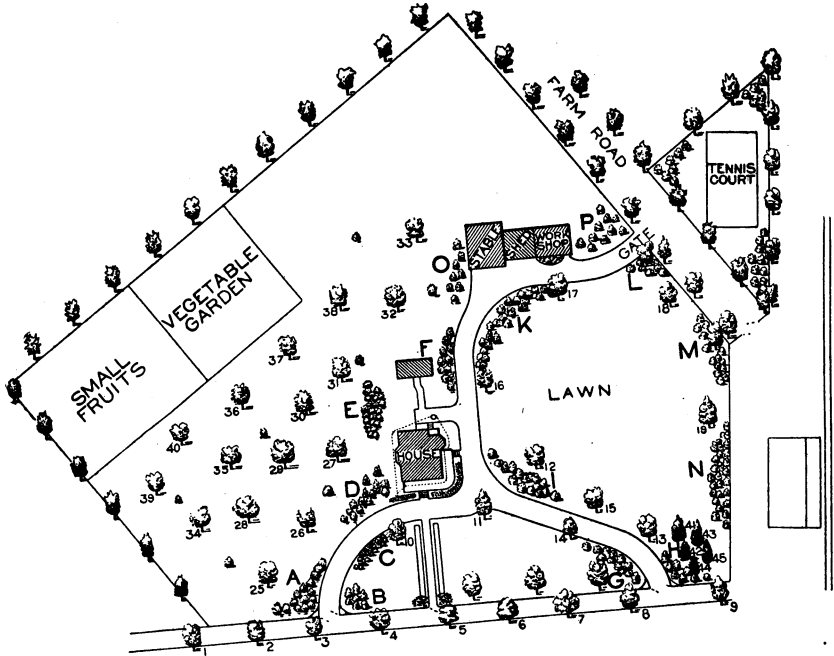


FIG. 1.—Planting plans for a house lot for farm or suburban home: 1 to 9, Pin oaks; 10 to 12, Ginkgo biloba; 13, Willow oak; 14 to 16, Norway maples; 17 and 19, Red oaks; 18, Elm; 25 and 27, Norway maples; 26 and 30, Tulip trees; 28 and 31, Red oaks; 29 and 32, Pin oaks; 33 and 34, Elms; 35 and 37, Green ash; 36 and 38, Black walnuts; 39, Red oak; 40, Elm; 41 to 45, Picea alba or Picea pungens.

On the other hand, large suburban places or country seats should, in order to maintain unity and harmony with their surroundings, be treated in the natural style. It is impossible to develop a forest, a park, or even a grove on an area less than an acre in extent; and it is equally impossible to maintain fountains, terraces, sheared trees, hedges, and carpet bedding over an area of several acres. Hence the two general styles of landscape gardening have been developed. One of these may be adopted, or both may be combined to suit the circumstances.

Before a tree or shrub is placed in its permanent location an outline map of the area to be treated should be made. This map should locate all existing structures, indicate the direction in which most pleasing outlooks are to be had, and also the contour of the ground to be beautified. The aim should be to hide by means of trees and shrubbery all objectionable buildings or portions of the place, and also to shut from view all unsightly objects maintained by neighbors; to locate the trees and shrubs so as to allow an uninterrupted line of vision where the outlook is pleasing, and to so locate the plantings on large estates as to afford the greatest protection from winds and undesirable surroundings consistent with good landscape effect.

Figure 1 serves to illustrate what is meant by the use of shrubs and trees for protective as well as for screening or cover purposes. The groups marked M and N have for their object the hiding of buildings which, while not seriously bad in themselves, contribute nothing to the general effect of the grounds under treatment. Group K serves the double purpose of a bay plantation for the curved drive and a screen for the stable and workshop, while groups E and F are designed as covers or screens for the woodshed at the rear of the residence.

A variety of trees and shrubs should be used. The selections made for this illustration (fig. 1) are intended merely to indicate some good varieties, and to illustrate methods of arrangement and grouping. The plan to be adopted and the selection of varieties must always depend more or less on local conditions.

Where trees and shrubs are needed neither as screens nor wind-breaks, their disposition should be such as will afford a pleasing effect and at the same time preserve as large an area of unbroken green-sward as practicable. At the right in figure 1 the area bounded by the curved drive is an unbroken lawn, with trees and shrubs disposed along the margins. On the left, however, the plantation has assumed the character of a grove in order to hide undesirable features in that quarter and for the purpose of serving as a wind-break.

WALKS AND DRIVES.

All walks and drives on small lots should be direct, as shown in figure 2. The planting of trees and shrubs or the placing of fountains and flag poles in the course of a walk which will cause the traveler to deviate unduly from his natural course is a common but objectionable arrangement. On small areas walks and drives should be straight unless there be good reason, because of the contour of the surface,

for making them curved. In more extensive areas, where the grouping of shrubs becomes an important factor in the construction of the place, curved walks and drives are most pleasing and effective.

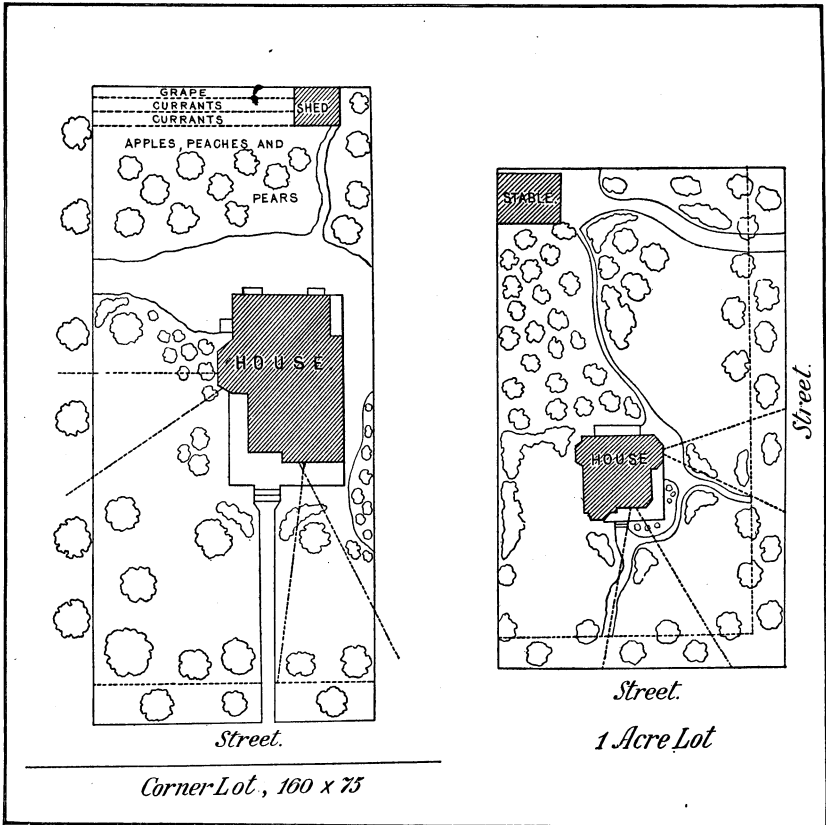


FIG. 2.—Planting plans for town lots: Irregular outlines and smaller circular figures represent groups of shrubbery; large circular forms show position of ornamental shade trees. In the plan of the acre-lot the plantation between the house and stable provides for a home fruit garden.

THE GREENSWARD.

With trees, shrubs, vines, and herbaceous bedding plants, pleasing contrasts can be produced. Each plant or group of plants has an expression peculiarly its own, and when used with suitable surroundings the effect is pleasing. While each of these plants possesses an intrinsic decorative value, this value is enhanced in proportion to the perfection of the greensward in which it is set. Green grass is not only useful as a covering for the earth, but it is of itself beautiful. A perfect lawn is one of the rarest possessions of either public or private establishments. A good lawn demands great skill and judg-

ment in its making as well as in its maintenance. The difficulties of lawn making become more accentuated as the heavy clays and clay loams of the North and West are replaced by the light, sandy soils of the South. The superb Kentucky bluegrass, which produces such perfect lawns in regions with heavy soils and abundant rainfall, must be supplemented by white clover as the soils become light and sandy, and finally, as southern latitudes are reached, both these must be replaced by Bermuda grass (*Capriola dactylon*) or by St. Augustine grass (*Stenotaphrum dimidiatum*).

The chief charm of a lawn consists in an even stand of grass of uniform color kept closely mown. In order to secure this a pure grass, such as Kentucky bluegrass, must be used, or the mixture must be so perfectly made from grasses of like habit of growth and coloring that a mottled effect will be avoided. For permanence, a greensward consisting of a blend of grasses is superior to one made from a single sort. For this reason, therefore, lawn mixtures usually consist of a number of different species. The great difficulty, however, lies in securing good germination from such mixtures, with uniform lawns as a result. The fescues all grow in stools or bunches; the rye grasses are lighter in color, coarser in leaf, and of more rapid growth than the Poas or bluegrasses. Most satisfactory combinations, both as regards beauty and permanence, come from mixing redtop and bluegrass (*Poa pratensis*). For poor soils containing much sand, the white Dutch clover is most satisfactorily used in combination with bluegrass and redtop.

In the South, however, lawns can only be successfully made from turf or from rootstocks. The grasses which succeed in the North and are there comparatively easily grown from seed are not successful in the South. Grasses which develop underground stems are most successful under southern conditions.

SELECTION AND USES OF SHRUBS.

General Arrangement of Trees and Shrubs.—In general, trees should stand either as single specimens in isolated positions or in irregular groups rather than in long rows. Under certain conditions long avenues of trees regularly disposed on either side of a prominent drive or vista may contribute a very pleasing and imposing effect to a large place. The general rule for trees also applies to shrubs, except that their use should be chiefly in groups or belts rather than as specimen plants, although specimen plants are of value in formal plantations. Few shrubs possess a sufficiently graceful and characteristic habit of growth to make them pleasing objects when grown singly upon the lawn, but where a number of specimens of varying habit are brought together in a single group, the differences are emphasized by contrast and the variety produces a pleasing effect, particularly if the rate and

habit of growth as well as the color and character of the foliage be somewhat different. Pleasing results in groups of shrubs do not come from large numbers of the same variety in mass, but from a harmonious arrangement of different genera, species, and varieties. In order to secure the greatest pleasure from shrubs in groups, each group should represent some idea either of spirit or of rest, and always of beauty. These effects come from the habit of growth of the plants used. Tall-growing, graceful, reed-like plants produce an effect of grace and beauty, while plants of a more sturdy habit may indicate strength and resistance. The latter are well suited for wind-breaks or

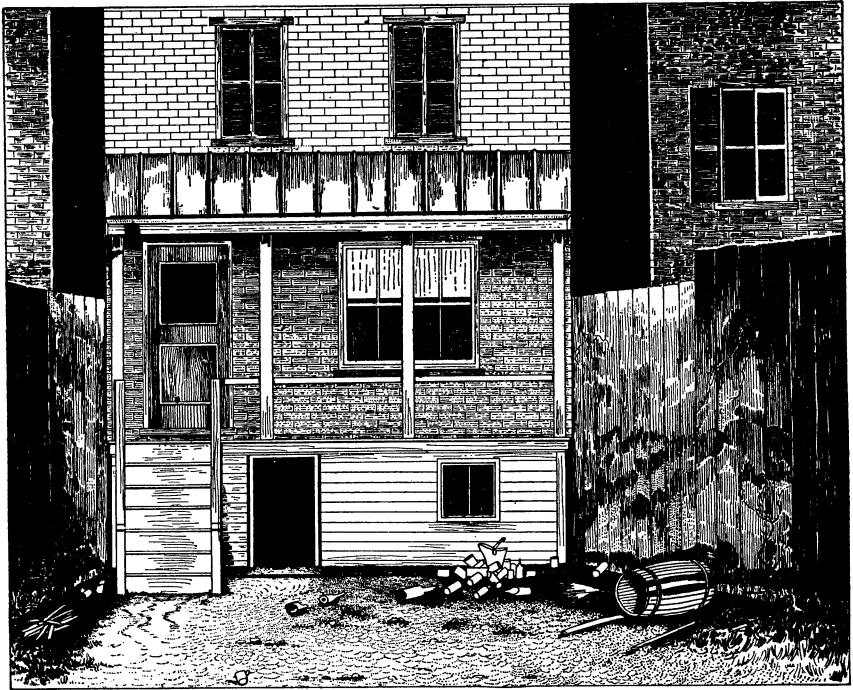


FIG. 3.—The back yard of a residence, showing a condition which too often exists.

shelter belts, while the former lend themselves to the formation of screens or masks, either for walks or drives or for fences or unsightly buildings. Each group or plantation made upon the grounds should have an excuse for its existence and a reason for occupying the particular spot it does.

If there are unsightly rear views, plantations in groups or belts should be provided, in order to hide such objects. If a portion of the grounds is to be used for a garden or a stable, then the planting should be so made as to effectively shut these areas from view.

Figure 3 shows the back yard of a city house which is a dumping

ground for rubbish. Figure 4 shows a rear view of the same premises after a gardener had given the place his attention.

Producing Color Effects.—Pleasing effects in shrubbery plantations come also from massing sorts so as to produce a floral display each month of the year. A group which blooms in May or June, and which presents no additional feature other than a mass of foliage from June until autumn, has little merit from a decorative point of view. Variety is the secret of pleasing effects in shrubbery groups. Glaring contrasts in habit of growth or in color of flowers or foliage are as objectionable in planted groups as in tapestries, but reasonable and



FIG. 4.—The same yard shown in figure 3, with a suggestion of the changes possible.

harmonious contrasts only add beauty and variety to the landscape. Not only do the flowers and foliage of spring and summer contribute to these results, but autumn colors add a most desirable and valuable contribution to the seasons' panorama.

Shrubs should be studied not alone from the standpoint of the size, color, and profusion of their bloom, but the time of leafing should be noted. The color of the leaf during summer as well as in autumn is also important. But most important of all is the time the leaves fall, whether early or late, or whether they remain on all winter. Some shrubs retain their foliage well on into winter, while others, such as

the California privet and many of the barberries, retain it all winter. Some of the magnolias retain their large glossy leaves until the

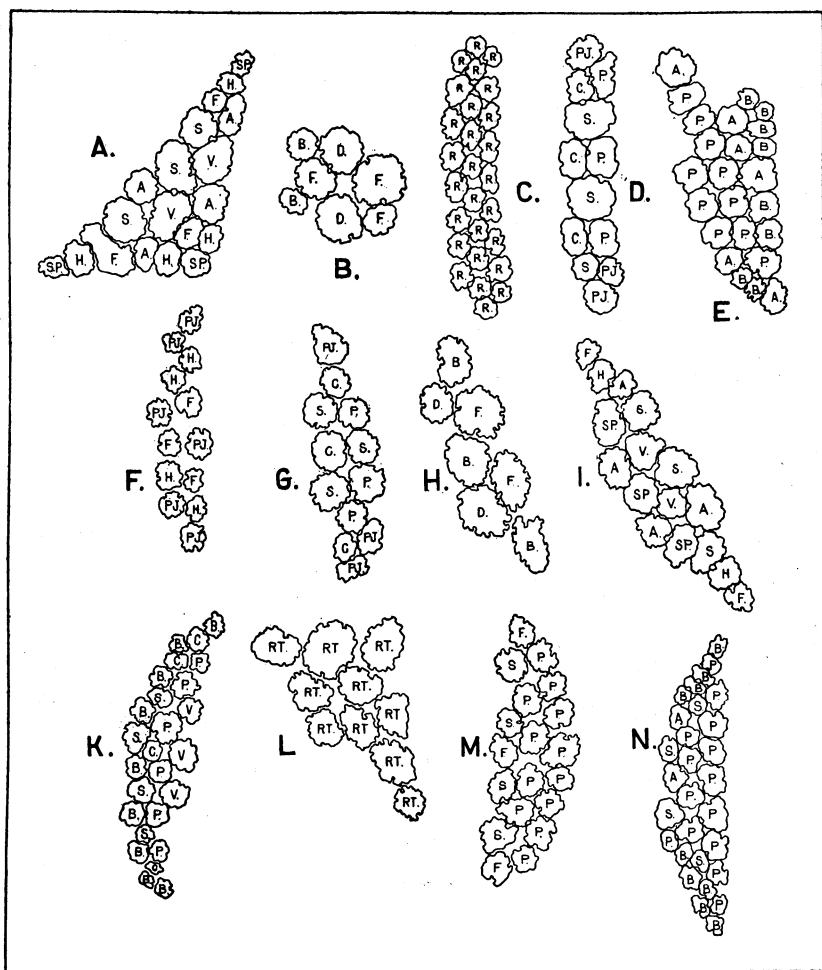


FIG. 5.—Detail of shrubbery groups shown in figure 1. GROUP A.—F, 3 Forsythia (May); S, 3 Syringa (May); V, 2 Viburnum (June); SP, 3 Spiraea (July); A, 4 Althea (August and September); H, 4 Hydrangea (August and September). GROUP B.—D, 2 Deutzia crenata (June); F, 3 Forsythia; B, 2 Berberis. GROUP C.—R, 27 Roses in variety. GROUP D.—C, 3 Calycanthus; P, 3 Philadelphus; S, 3 Syringa (white); PJ, 3 Pyrus japonica. GROUP E.—A, 6 Althea; B, 8 Berberis; P, 10 Privet. GROUP F.—F, 3 Forsythia; H, 4 Hydrangea; PJ, 6 Pyrus japonica. GROUP G.—C, 3 Calycanthus; P, 3 Philadelphus; S, 3 Syringa (white); PJ, 3 Pyrus japonica. GROUP H.—D, 2 Deutzia crenata (June); F, 2 Forsythia; B, 3 Berberis. GROUP I.—F, 2 Forsythia (May); S, 3 Syringa (May); V, 2 Viburnum (June); SP, 3 Spiraea (July); A, 4 Althea (August and September); H, 2 Hydrangea (August and September). GROUP K.—V, 3 Viburnum plicatum; S, 4 Syringa (white and purple); C, 4 Calycanthus; B, 9 Berberis; P, 6 Privet. GROUP L.—RT, 10 Rhus typhina (sumac). GROUP M.—P, 12 Privet; S, 4 Syringa; F, 3 Forsythia. GROUP N.—P, 14 Privet; S, 4 Syringa; A, 2 Althea; B, 9 Berberis.

approach of spring, when they turn brown and fall, to be replaced a few weeks later by a new set equally as large and glossy.

In this connection it is interesting to note a feature in our oaks and beeches which has some value from a decorative standpoint. Several of the oaks, notably the white oak (*Quercus alba*), hold their leaves after they have become brown and lifeless. This habit, while of some merit from an artistic point of view, is a very great annoyance to the lover of clean lawns and to the leaf gatherers, for the leaves of these trees fall continually from autumn until spring. The same objection also applies to some of the beeches, notably the American beech.

Arrangement According to Form and Size.—In grouping shrubs, those with an upright habit and robust growth should occupy either a rear or a central location in order that they may form the general barriers against which all lower-growing sorts may be arranged in regular gradation to the border line, which latter should be given up to the decumbent and effeminate sorts, in order that the eye may be carried from the greensward to the top of the group without receiving offense from bare stalks between the turf and the foliage of the group itself. Avoid bare trunks in evergreens and bare stalks in the group.

Low-growing, dense-foliaged plants are as essential to a successful group or border as are the tall-growing sorts. Nature herself is one of the safest guides. Her groups are always made up of a variety of light-loving and shade-enduring plants growing together, each one assisting the other to secure the environment best suited to its highest development. For instance, the ailanthus, sumac, and ampelopsis all grow and develop beautifully in full sunshine, but are, at the same time, among the most common undergrowth of the forest. Various species of *Cornus*, *Viburnum*, and *Rubus* adapt themselves well to underplanting. It is because of these adaptations of plants to natural environments so markedly unlike that nature always presents a pleasing and restful picture.

Modern landscape horticulture is at best only a poor reproduction of the model set by Nature herself, but in making the counterfeit every possible advantage should be taken of the natural adaptations of plants in order to secure the most pleasing effects from the material at command. In all planting it should be the aim to conceal the hand of the gardener to the utmost possible extent. In small formal places with straight walks and hedges, the gardener's shears must be used frequently, but the aim should always be to produce harmony and symmetry without materially altering the natural habit of the plants. Formal hedges are an exception, but specimen trees and shrubs need not be.

The Masking of Walks and Drives.—The bays of curved walks and drives should be filled with groups of shrubs, so that if there be no natural object for the road to make a curve around, the plantation will serve as a substitute for one, and in so doing produce one of the

highest effects which can be secured in landscape gardening. By a judicious use of plants in the bays of walks and drives new and unexpected features in the form of vistas, lawn pieces, or specimen plants can be brought before the observer, thus producing pleasant surprises and holding his interest. This is suggested in figure 6. The plantations show variety as well as serve the purpose of marking the walk.

The planting of bays or the masking of walks and drives is one of the fine arts in landscape decoration. If care and skill are exercised, the interest of the visitor will not be allowed to flag, for at each turn in the road some new beauty will appear. The sense of discovery is an important one to be gratified. The skillful planter realizes this and takes advantage of the curves in the road to shut out for the time

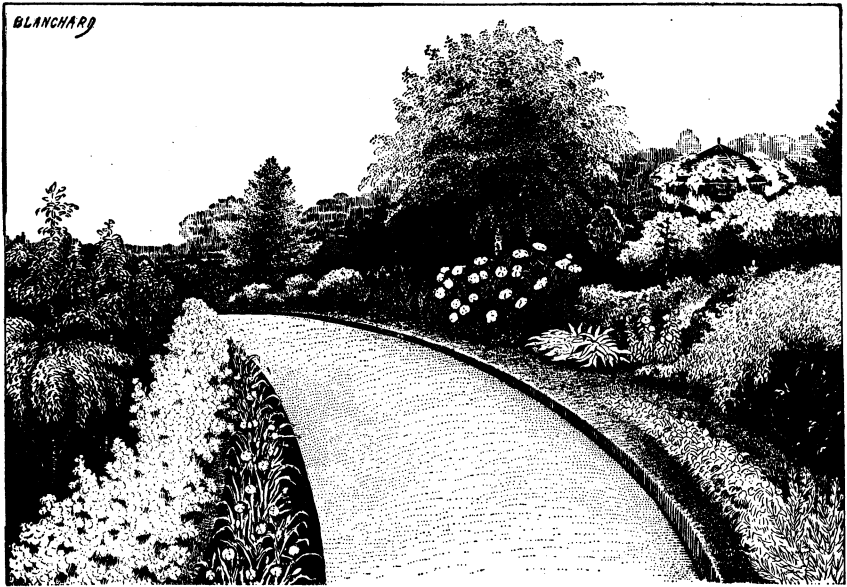


FIG. 6.—A pleasing effect produced by successful bay and border planting.

being those objects of interest and beauty which lie beyond. From the nature of the result desired, tall-growing deciduous trees are not suited to this character of planting. Masking groups must be dense enough and tall enough to shut out the view. They must not be formal, but should lose their outlines gradually and grade harmoniously off into the greensward or grosser planting, according to the general character of that part of the grounds. The same rules in regard to harmony and variety hold for masking groups as for those designed as shelter belts or as screens.

Arrangement of Shrubs in Groups.—Returning to the groups of shrubbery provided for in figure 1, it is desirable to combine in each group as much of interest as possible without making the group heavy and

unattractive. In Group A it is proposed to plant the following-named shrubs in the numbers indicated: Forsythia, 3; syringa, 3; viburnum, 2; spiræa, 3; althea, 4; hydrangea, 4. The next point to settle is the relation of these plants to one another in the group. Because of the different habit and rate of growth of the several sorts mentioned their location will have an important bearing upon the ultimate character of the plantation. It is evident that the tall-growing viburnums must have a central location along with the syringas; these to be flanked by the altheas; outside of these the forsythias and spiræas, with the hydrangeas near the corners, the plantation being completed by a spiræa at each point. (See Group A, fig. 5.) In this group there are 19 individual plants, representing six different types and genera of plants. The blooming season provided for in the group is, forsythia and syringa, May; viburnum, June; hydrangea and spiræa, July; althea, August and September, with the althea frequently blooming well on into October. Here, then, we have not only a variety of foliage and a different rate and habit of growth, but a blooming period beginning in May and extending well into October, when the viburnums will begin to take on autumn coloring. In such a group each month brings a new glory in addition to the variety produced by the diversity in the shrubs themselves. Variety, harmony, and beauty are the ends sought in this plantation.

DECIDUOUS TREES.

Trees which shed their foliage at the approach of cold weather must necessarily form a large portion of the grosser decorative material for plantations in the North Temperate Zone. Not only do such trees make up a great portion of the indigenous growth of the region, but the deciduous trees present a great range of size and form, as well as a great variety of colors and leaf forms, features of the utmost importance in producing variety in landscape effects. The colors which add so much beauty to the landscape during the autumn months appear only in deciduous trees and shrubs.

The Oaks.—During youth the oaks present a symmetrical form, together with a variety of leaf forms, which renders them especially attractive objects. The broad, spreading, rugged habit characteristic of the white, red, rock, and willow oaks produces a striking contrast with the numerous small-sized drooping branches and pyramidal form of the pin oak. The leaves of the oak range in size from the massive broad leaves of the mossycup oak (*Quercus macrocarpa*), often 10 or 12 inches in length and 4 or 5 inches in width, to the short, narrow leaves of the willow oak (*Q. phellos*). This group, which is interesting and valuable from an economic as well as an æsthetic standpoint, contains not only a variety of deciduous forms, but at the South offers in the

live oak (*Q. virginiana*) an evergreen form which is among the most valuable of the shade trees for the section to which it is adapted.

The Maples.—Next to the oaks as regards variety in form and beauty of autumn coloring stand the maples. This group, like the oaks, presents dwarf, shrubby forms as well as gigantic timber trees. From the standpoint of the landscape gardener, the maples are less desirable than the oaks and many other deciduous trees, because of their liability to injury by heavy winds. The wood of this group is brittle, and the branches have an unfortunate habit of forking in such a fashion that a weak union results which, when subjected to heavy pressure from wind or ice, gives way, causing wounds which produce conditions leading to early destruction of the trees. To offset these unfortunate features, the maples as a class are of rapid growth and symmetrical form, adapting themselves to a great variety of conditions. The red maple (*Acer rubrum*) is a water-loving plant, but can be quite successfully grown on the upland. The silver maple (*A. saccharinum*) endures under the rigorous conditions of the Northwest, and is at the same time extensively planted with success throughout the Middle Atlantic States for ornamental purposes. In autumn the most brilliant reds and yellows of our forests are produced by the maples.

The American Elm.—Among the more valuable deciduous trees, both for street and ornamental planting, may be mentioned the American elm (*Ulmus americana*), which is hardy over a wide range, grows rapidly, and forms one of the most graceful and beautiful trees native to our forests.

The Ashes.—The ashes are of rapid growth and have clean foliage which gives them an attractive appearance. The one drawback to the ash as a park tree is its habit of producing great quantities of seeds, which in turn produce a crop of weedy seedlings upon the lawn.

The Lindens.—The American as well as the European lindens are useful lawn and park trees, but do not long endure the privations of street life in cities. In the open, their broad leaves, clean branches, and fragrant blossoms render them of value for lawn purposes. The extreme hardiness of the linden extends its use to the Northwest. In its native habitat it is much prized as a honey plant, and also for its timber, which is extensively used in the manufacture of light boxes and other receptacles.

The Poplars.—The poplars present another group of widely varying plants, which on account of their rapid growth and extreme hardiness are extensively planted in the treeless sections of the Northwest, as well as about residences in more equable climates, where quick shade and protection are desired. When used for immediate effect they are usually accompanied by slower-growing trees, which, when sufficiently grown, will altogether replace the poplars.

The Willows.—Willows are seldom used either as street or park trees, but upon extensive grounds, where moist places occur which do not offer a congenial habitat for other desirable deciduous trees, the willows, because of their adaptation to such spots, are very useful.

The Tulip Tree.—The tulip tree, which is also known as the yellow poplar (*Liriodendron tulipifera*), is a rapid-growing tree, attaining immense size and showing most attractive, glossy, fiddle-shaped leaves. In spring, trees growing in the open show a profusion of yellow, tulip-shaped flowers, which are later followed by the characteristic fleshy fruit of the magnolia, of which it is a representative. While seldom used for street purposes in cities, it is of value for driveways and parks where trees of great size and beauty are admissible.

The Sycamore.—The sycamore, or plane tree, both native and oriental, is a most useful street tree and as well a striking lawn or park tree. In age it presents a most picturesque appearance as a result of its sturdy, irregularly branching limbs and its peculiar greenish-white bark. The leaves of the native species suffer severely in some localities from a parasitic fungus, which detracts greatly from the value of this tree for ornamental purposes.

The Hardy Catalpa (*Catalpa speciosa*).—Because of its rapid growth and symmetrical form when grown in the open, taken in connection with its broad leaves and showy racemes of flowers, this has become a favorite tree for planting in the prairie regions, where comparatively few broad-leaved trees endure. Besides its ornamental value, the catalpa produces very durable timber, highly prized as post material.

The Horse Chestnut (*Æsculus*).—This group of trees is of especial merit because they combine with attractive form and foliage a beautiful floral display during the months of May and June. The drawbacks to the horse chestnut are the objectionable litter made by the ripening fruits in the autumn and the fact that in some localities at least the European species (*A. hippocastanum*) is subject to a disease of the foliage. The hardness of the horse chestnut and the beauty of its flowers and foliage are sufficient to warrant its use as a specimen tree, despite its objectionable fall litter.

The Kentucky Coffee Tree (*Gymnocladus canadensis*).—This is a deciduous tree of an ornamental nature, with very long bipinnate leaves. It is adapted to the Middle and Western States, and produces best results in rich, moist soils. Seeds are produced in long, broad pods, the shells of which are hard and resistant when mature, as are also the seeds themselves. The growth is upright and rapid. The bark is rough, but ornamental, while the shoots themselves are stiff and blunt, the compound leaves giving the whole plant a light, airy appearance, which is augmented by their bluish-green color.

The Yellow Wood (*Cladrastis tinctoria*).—This free-growing, ornamental deciduous tree is native to the region of Kentucky and Tennessee. It is desirable because of its rounded form and its compound leaves of a bright light green, which in autumn turn to a warm yellow. Its flowers, which are generally borne in great profusion, are irregular (pea-shaped), white, sweet scented, and appear in long, drooping racemes, which frequently make the tree a veritable bouquet. It is free from disease, makes a moderate growth, has smooth bark, makes no objectionable litter in the autumn, and is therefore very desirable for lawn and city purposes.

EVERGREEN TREES AND SHRUBS.

The general effect of an evergreen or coniferous forest is that of somberness. Life is apt to have enough of the somber element forced into it by circumstances outside of one's control, and for that reason, if for no other, plantings which develop this effect in the surroundings of the home should be avoided. The use of the narrow-leaved evergreens is therefore restricted from an æsthetic standpoint. They are also generally restricted by climatic conditions to high altitudes and latitudes. A limited use of conifers at the North adds a very desirable variety to the character of a place during summer as well as during winter. In summer the effect is one of contrast in growing plants, while in winter it is, as it were, a contrast of the living with the dead. During winter the conifers by retaining their leaves carry with them an expression of life and warmth, and when draped in snow and ice the long, graceful branches of the pines and spruces present most interesting and beautiful objects. The gaunt, bare branches of the leafless oaks and maples produce a marked contrast with the compact form of well-grown conifers.

Because of the undesirable effect resulting from the close planting of evergreens, their use is restricted. As a means of emphasizing slight elevations they are exceedingly useful. Screens which can not be made sufficiently dense or lasting with deciduous trees can well be formed with conifers. A limited use of conifers at the North is in conformity with the general character of the forest growth of the region. True, some sections show only deciduous, while others possess only coniferous, forests. In landscape gardening neither of these extremes can be followed with profit. An intermingling of evergreens with the deciduous plants produces a pleasing effect which relieves the faults of a too general use of either.

At the South the character of decorative plantations is of necessity very different from that at the North. Here evergreen forests abound; the marked contrast of the seasons is not emphasized in nature. Even during winter, conditions comparable with those of the spring months

at the North obtain; growth is only temporarily interrupted, and there is therefore no natural reason why plants should shut themselves up in frost-proof boxes, as do the broad-leaved species of the North. At the South evergreens are the rule and not the exception. In habit of growth and character of foliage, the evergreen plants of the South, aside from the conifers, of which there are many, are quite exempt from the objection urged against the profuse use of conifers at the North. The beautiful rounded form of the live oak which, from Richmond, Va., southward along the coast, forms such an important feature in street and park adornment, is entirely exempt from the quality of somberness. Other broad-leaved evergreens are the magnolias, the palmettoes, the camellia (*Camellia japonica*), and farther south the cocoanut palm, the mango, the sapodilla, the camphor, and the citrous trees. In regions with a sufficiently mild climate, the Australian pine (*Casuarina equisetifolia*) makes a most graceful avenue tree.

TALL-GROWING PERENNIAL GRASSES.

In the hardy tall-growing grasses there are valuable objects for use upon the lawn and in groups of shrubs for the purpose of adding a touch of color and variety. The coloring of such grasses as *Eulalia japonica*, varieties *zebrina*, *gracillima*, and *variegata*, is so markedly different from that of the common lawn carpet and from the shrubs used in masses and shelter belts that a pleasing contrast is afforded by interspersing them here and there. Then, too, these hardy grasses, because of their rapid growth, add a touch of variety and carry a suggestion of the tropical. Such tall-growing plants as the "tall reed" (*Arundo donax*) serve the purpose well if used in conjunction with ailanthus or sumac, which if cut back to the ground each season will produce a marked and pleasing tropical effect. If sumac is used as the shrubby member of the group, a most delightful touch of autumn coloring will be afforded by the rich red of its foliage during October. The best of the sumacs for this purpose is *Rhus glabra*, although the hairy sumac (*Rhus typhina*) is very good, and for tropical effect the ailanthus is best of all, but it lacks the autumn charm of the other two. Besides their use as features in groups of shrubs, the grasses lend themselves well to formal plantations. When placed regularly in rows or in formal beds, they become useful as well as attractive features in the planting plan.

One of the chief advantages which these plants offer is the ease and facility with which they can be increased by division, thus affording a quick and inexpensive method of securing a very satisfactory immediate effect. The hardy grasses can also be used to good purpose as the central features of herbaceous borders or beds. The tall reed (*Arundo donax*) as a central mass bordered by tall-growing, dark-

leaved cannas, which in turn are bounded by a robust coleus, such as "Golden Bedder," can be used to good advantage in a large place to produce an effect of richness and luxuriance at a minimum of cost. While such expedients can not be classed as a high or desirable type of decoration, they often serve a very useful purpose where funds are limited.

PERMANENT VINES.

Climbing plants meet a demand in the adornment of a place which can be filled neither by trees nor shrubs. Trees and shrubs can be used to hide unsightly objects from a distance, but vines serve the same purpose as the draperies of a garment; they mask by covering unsightly objects, as shown in figure 7.

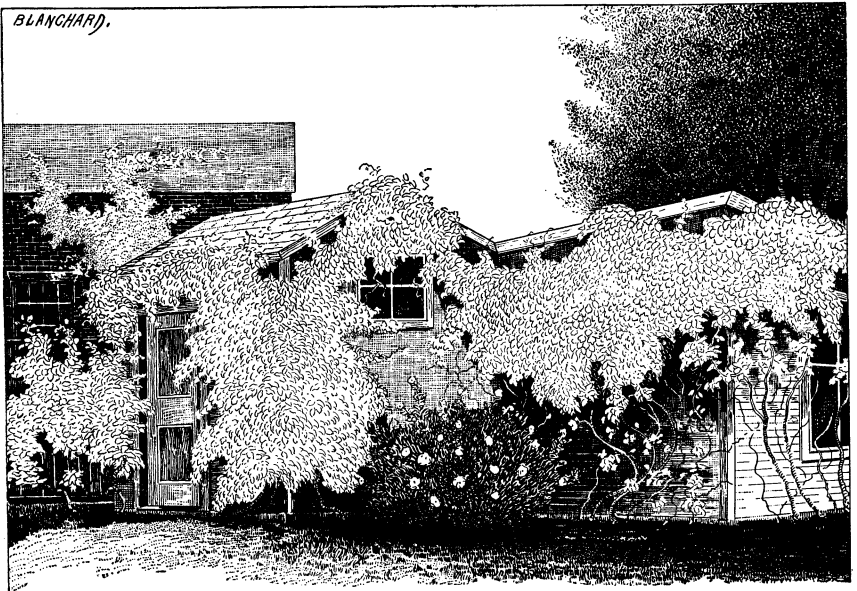


FIG. 7.—Effective masking of outbuildings by shrubs and permanent vines.

Vines have a peculiar value in decorative planting in that as a class they are shade enduring; yet many of the best decorative plants of this group thrive to perfection in full sunlight. Since many vines will thrive in partial shade as well as in full sunlight, they lend themselves well to porch and arbor decoration. A few have the power to attach themselves to bare walls, thus making them extremely useful in covering rough brick, stone, or wooden walls, giving them an effect of age, beauty, and appropriateness which can not be produced by artists and architectural materials. Two of the best vines for covering walls are the Boston ivy (*Ampelopsis tricuspidata*) and the English ivy (*Hedera helix*).

Vines which attach themselves to wire or wood supports and are chiefly valuable because of their covering and shading effects are the clematis, with all its varied forms, the wistaria, the trumpet flower, and the Actinidia and Akebia, both valuable cover plants. For sandy regions either as a soil binder or as an arbor or trellis cover none of the vines is more useful than the Japanese honeysuckle (*Lonicera japonica*). There are many other good honeysuckles (*Loniceræ*) grown for decorative purposes, but none is more rapid-growing or freer from insect pests and fungous diseases than the Japanese honeysuckle. In this catalogue of valuable vines two more of our native vines justly merit high places—the five-fingered ivy (*Ampelopsis quinquefolia*) and the bittersweet (*Celastrus scandens*).

ANNUAL VINES.

Annual vines may also serve a useful purpose about a new place. The perennial woody vines are slow growing, and usually make but little shade or protection during the first two or three years after planting. With annual plants, however, the case is quite different. Many annual climbing vines have a profusion of leaves, grow rapidly and luxuriantly, and afford a simple, inexpensive, yet satisfactory means of securing an immediate screen. For best results with these plants special attention to early planting, often indoors, is essential. When planting-out time arrives, place them in a rich, well-drained soil, and at all times maintain an abundant supply of moisture. Under such conditions use the moonflower (*Ipomœa grandiflora*), the *Cobœa scandens*, the morning-glory, the cypress vine (*Ipomœa quamoclit*), the hyacinth bean (*Dolichos lablab*), nasturtiums for low screens and lattices, and the wild cucumber (*Echinocystis lobata*) for taller structures. Rustic summer houses and arbors may be very beautifully and satisfactorily adorned with cobœa, or with wild cucumber, during the time which must elapse before the permanent vines can be grown sufficiently to cover the structure.

EMERGENCY PLANTING.

The comparative value of shrubs and perennial grasses and herbaceous annual bedding plants is at once apparent. Residents of the country or of suburban places have difficulty in securing suitable herbaceous plants in sufficient quantities to produce rich effects, and even if such plants can be obtained in profusion they can not take the place of shrubs and grasses either as cover plants or as screens or wind-breaks. A complete arrangement requires a harmonious use of both shrubs and annual herbaceous plants.

For quick results, however, where shrubs of large size can not be secured or are too expensive, a temporary effect can be produced by the

use of tall-growing, broad-leaved plants, such as the castor bean (*Ricinus*), the canna, and the caladium, as shown in figure 8. The castor bean grows rapidly, is easily propagated from seed, and comes true to variety, affording in one plant a wide range in color of foliage and in stature. This plant frequently grows 6 to 8 feet in height from seed, even as far north as New York, in a single season. Its broad-spreading habit, together with its attractive foliage, which in well-nourished plants is retained well down to the ground, renders the castor bean a very satisfactory makeshift or substitute for shrubbery where screens and masking masses are needed. The trouble with all such makeshifts is that they produce an effect which lasts for a few months only, while with

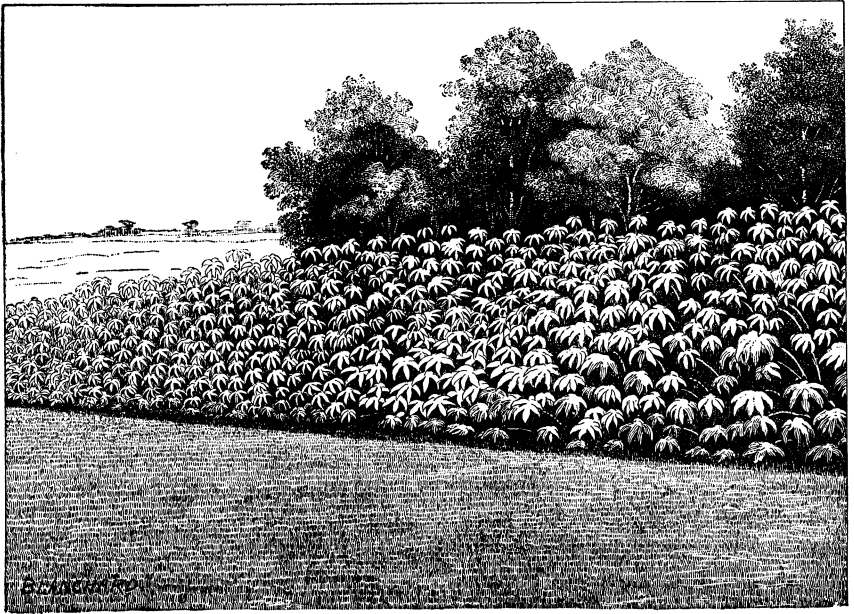


FIG. 8.—Castor beans used as a screen for the bare trunks of trees.

shrubs the benefit is lasting and they serve quite as useful a purpose in the way of shelter belts and screens in winter as during the summer. For the sake of variety, the caladium and canna can be used to good advantage in connection with the castor bean. The tall habit of the canna and the broad leaves of the caladium render them well fitted for massing. Such plants as the castor bean, the canna, and the caladium can be used to good purpose in shrub borders and masking groups before the shrubs are sufficiently grown to produce the effect desired. Even after the shrubs have grown sufficiently to accomplish the end sought an occasional mass of castor beans, asters, eulalias, or arundo interspersed at intervals will lend variety and life to the groups.

CULTURAL SUGGESTIONS.

In addition to a well-executed general planting plan the successful development of a place depends on the preparation and fertilization of the soil, the pruning and planting of trees and shrubs, and the making and maintenance of a greensward.

Preparation and Fertilization of the Soil.—The nature of the plantations upon a city lot or suburban place is such that the main part of the cultivation must necessarily be done before the plantations are made. The soil should be thoroughly pulverized, brought to a general grade, and the surface smoothed and raked with a steel-tooth rake. If a lawn is to be made, the grass seed should be sown immediately after the raking, and then the surface thoroughly compacted by the use of a heavy lawn roller. Fertilizers for the lawn should be free from weed seed and be of a lasting nature. If the soil is heavy it can be improved by plowing in a crop of cowpeas or Canada field peas. If this can not be done, the next best plan is to use thoroughly composted or sterilized stable manure. If the soil is naturally light its store of plant food can be augmented with bone meal. This should not be plowed under, but harrowed in at the time of preparing the soil.

Pruning and Planting.—The critical period in the life of a plant is when it is transplanted from the nursery to its permanent location. In moving trees from the nursery a portion of the root area is lost, and the top should be reduced in proportion to the loss of root area, in order that the newly transplanted and unestablished plant may be able to secure sufficient moisture and food to supply the demands of the top. The roots should also be pruned, so as to protect them against decay, by cutting away all broken and mutilated parts, leaving the cut surfaces smooth and in such position that they will come in contact with the fresh earth. After the plant becomes established certain branches will grow more rapidly than others and the appearance of the plant will be spoiled by this unequal growth. Pruning should, therefore, be resorted to in order to preserve a symmetrical development of the plant without rendering it artificial or formal in appearance. Care should also be exercised during the early development of a plant to maintain a uniform distribution of branches around the central axis, if it be a tree, so as to insure a symmetrical and pleasing form at maturity.

At planting time the excavation prepared for the reception of the tree should be of sufficient depth to allow it to be set as deep as it stood in the nursery and large enough to accommodate the roots without bending them, while the earth in the bottom of the hole should be loosened at least one spade length below the general floor of the hole. In replacing the soil over the roots of the plant, a thin layer of earth

should be placed immediately in contact with the roots and thoroughly pressed down by trampling in order to bring the particles of soil in close contact with the feeding roots of the plant. The hole should then be filled and the surface left slightly above the general surface of the surrounding ground.

Maintenance of a Greensward.—Newly established lawns should never be allowed to mature seed. Frequent clipping with the lawn mower, if not made too close, tends to stimulate the stooling of the plants rather than to interfere with their growth. If the lawn is located in a dry section or one subject to long periods of drought, it will be necessary to irrigate or sprinkle. A little water is an injury rather than a benefit. If watering is begun it should be done at night rather than during the day, and sufficient water given to thoroughly wet the soil. During the winter the new lawn should have a dressing of coarse litter or, if the soil is poor, of thoroughly composted stable manure. If neither of these is available or desirable, a fall dressing of bone meal will be found very useful. In the spring, as growth begins, the lawn should be raked with a steel-tooth rake, all breaks carefully filled in with turf or seeded, and the whole area rolled with a heavy roller. Subsequent treatment will consist in maintaining the moisture by proper use of water and frequent clipping with the lawn mower.

CONCLUSION.

To harmoniously arrange trees, shrubs, and herbaceous plants, and at the same time adjust them to the contour of the place, to the architecture of the buildings, and to the convenience of the walks and drives, is the aim of the landscape gardener. As his guide and model he takes Nature, and in so far as she is followed his work is pleasing. Every successful attempt to adorn a city lot, a suburban place, or a park has a valuable influence upon the community in which it is situated. It furnishes an object lesson which others will attempt to follow, and in this way it serves the useful purpose of stimulating in others a love for the beautiful in nature. Fortunately, the beauty which is produced by ornamental plantings can not be selfishly kept for the exclusive use of its owner; every passer-by can take the full measure of his capacity without in the least detracting from the value of the plantation to its owner. Every person who plants a tree is a public benefactor.